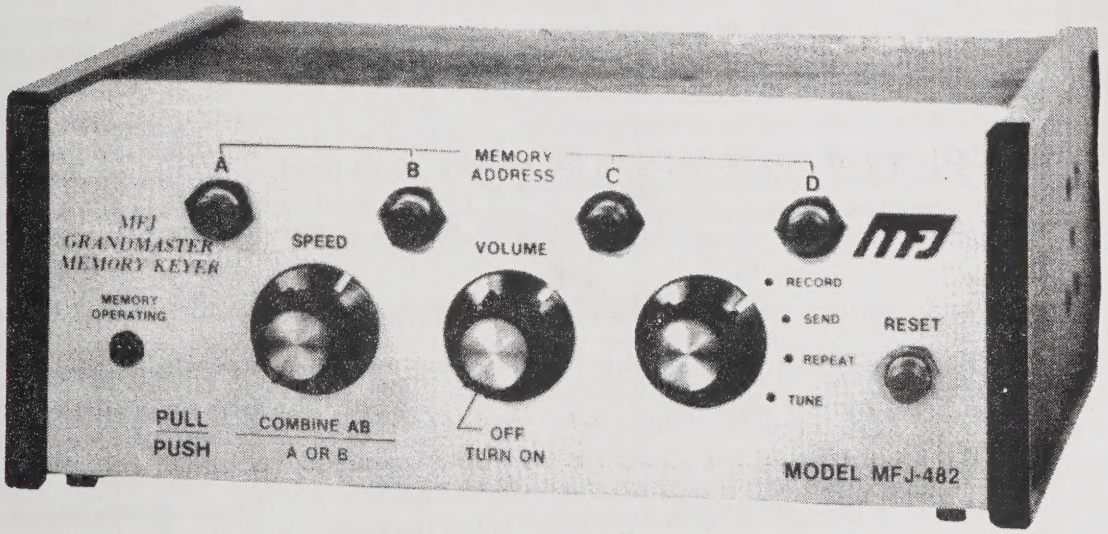
MFJ GRANDMASTER MEMORY KEYER

MODEL MFJ-482



OWNER'S MANUAL

CAUTION: Read All Instructions Before Operating Equipment.

MFJ ENTERPRISES, INC.

P. O. BOX 494, MISSISSIPPI STATE, MS. 39762, USA

MFJ-1200-0029

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INTRODUCTION

The **MFJ-482 GRANDMASTER MEMORY KEYER** is a sophisticated memory keyer using CMOS Integrated Circuits and a Random Access Memory. It has 1042 bits of memory space that will store approximately 100 characters (four 25 character or two 25 and one 50 character message). To insure full benefit of this memory keyer, please read this instruction manual before operating.

CONTROL FUNCTIONS

1. **SPEED CONTROL.** Speed is variable from 8 to 50 wpm. **Pull** this control out to combine A and B memory addresses.
2. **WEIGHT CONTROL.** This control is located on the rear panel. When turned fully counter clockwise, dot-dash-space ratio is a perfect 1:3:1. Turn this control clockwise to increase dot and dash lengths.
3. **TONE CONTROL.** This control is located on the rear panel. Use it to adjust for desired sidetone pitch.
4. **VOLUME CONTROL** to adjust the loudness of sidetone. Turn this control fully counter clockwise to turn off the memory keyer. All messages stored in memory are erased when this control is turned off. **Keep power on to maintain memory.**
5. **RECORD, SEND, REPEAT, TUNE FUNCTION SWITCH.** The RECORD position sets the memory keyer in the record mode for recording messages into memory. The SEND position allows playing back recorded messages and allows the memory keyer to be used as an electronic keyer. The REPEAT position allows repeating the recorded messages continuously. The TUNE position keys your transmitter continuously for tuning.
6. **RESET BUTTON.** It is used to stop memory from operating. When sending a recorded message, memory can be stopped by pressing the reset button or by tapping the keyer paddle. This resets all memory addresses to the beginning.
7. **LED INDICATOR** shows when memory is in operation.
8. **MEMORY ADDRESS.** Four push buttons A, B, C and D are used to directly address the memory. Press a MEMORY ADDRESS button to start a message. Memory operation can be interrupted by pressing another MEMORY ADDRESS button without pressing the RESET button first.
9. **MEMORY SAVER.** An internal 9 volt battery (not included, alkaline type recommended) switches in automatically when a 110 volt AC power failure occurs. This allows all messages to be retained. A battery clip and holder are provided for installation of a 9 volt alkaline battery. If the sidetone is not used, the MEMORY SAVER has an operation time of approximately eight hours. If longer storage time is needed an external battery of 12-15 VDC may be connected to the battery jack on the memory keyer. **MEMORY SAVER is also turned off when the VOLUME control is turned off.**

INSTALLATION

1. To install the memory saver battery, remove the two screws near the rear top. Slide the cover toward the back and remove. Connect a 9 volt battery to the battery snap then insert the battery into the holder. A 9 volt alkaline battery should be used. When the memory saver battery is not used, cover the battery snap with the plastic tubing supplied to prevent shorting.
2. The MFJ-482 comes with a 110 volt AC adapter. First plug the adapter into the sub miniature jack on the rear panel and then plug the adapter in the 110 VAC wall socket. It is not necessary to unplug the AC adapter when the memory keyer is not in use.
3. During portable use when 110 VAC is not available, plug external batteries into the 12-15 VDC sub miniature jack on the rear panel. External batteries and the memory saver can never come into use unless power from the adapter is lost. The tip of the sub miniature plug is positive and the sleeve is ground, for the AC adapter and external batteries.
4. A squeeze or single lever key can be used. Squeeze key allows IAMBIC operation. Use a standard quarter inch stereo phone plug and a two conductor shielded cable or two separately shielded cables. Tie the shields together and use it for ground. The dot wire should be connected to the ring of the plug, the dash wire to the tip and the shield to ground.
5. A reliable solid state keying circuit allows keying of all grid block, cathode, and solid state transmitters. For grid block keying use the "Grid Block" keying output. For cathode keyed and solid state transmitter, use the "Direct" keying output. Try both outputs if you are uncertain to which output to use. The keyer outputs are self protected. The "Grid Block" output keys a maximum negative voltage of 300 volts to ground at 10 ma. The "Direct" output keys a maximum positive voltage of 300 volts to ground at a maximum current of 100 ma. Use a shielded cable to connect between the memory keyer and the transmitter key input.

OPERATION PROCEDURE

I KEYER OPERATION

1. Apply power to the memory keyer. Use the AC adapter provided.
2. Plug in key paddle to the KEY jack. A dual paddle squeeze key or a single lever key can be used.
3. Push the SPEED control in.
4. Turn Function Switch to SEND position.
5. Turn VOLUME control clockwise to turn on memory keyer.
6. Start sending with paddle and adjust volume, tone, weight and speed. The TONE and WEIGHT controls are located in the back panel. NOTE: The weight control may cause a steady tone at high speed. Should this occur, the weight or the speed must be reduced by turning the controls counter clockwise until it stops.
7. The dot and dash memories ease sending by allowing keying the dot before the completion of the dash or vice versa. This feature can be checked by setting to the lowest speed and tap first the dash lever then the dot lever before the completion of the dash. The keyer will provide both the dash and the dot. The dash memory can be checked by first tapping the dot then the dash. The dot insertion features allows you to tap the dot side to insert a dot while holding the dash side in. The dash insertion feature allows you to tap the dash side to insert a dash while holding the dot side in. When using squeeze key and with both paddles squeezed together the iambic operation feature allows sending of alternate dots and dashes. The first contact determines whether a dot or dash occurs first.

II. MEMORY OPERATION

A. Recording

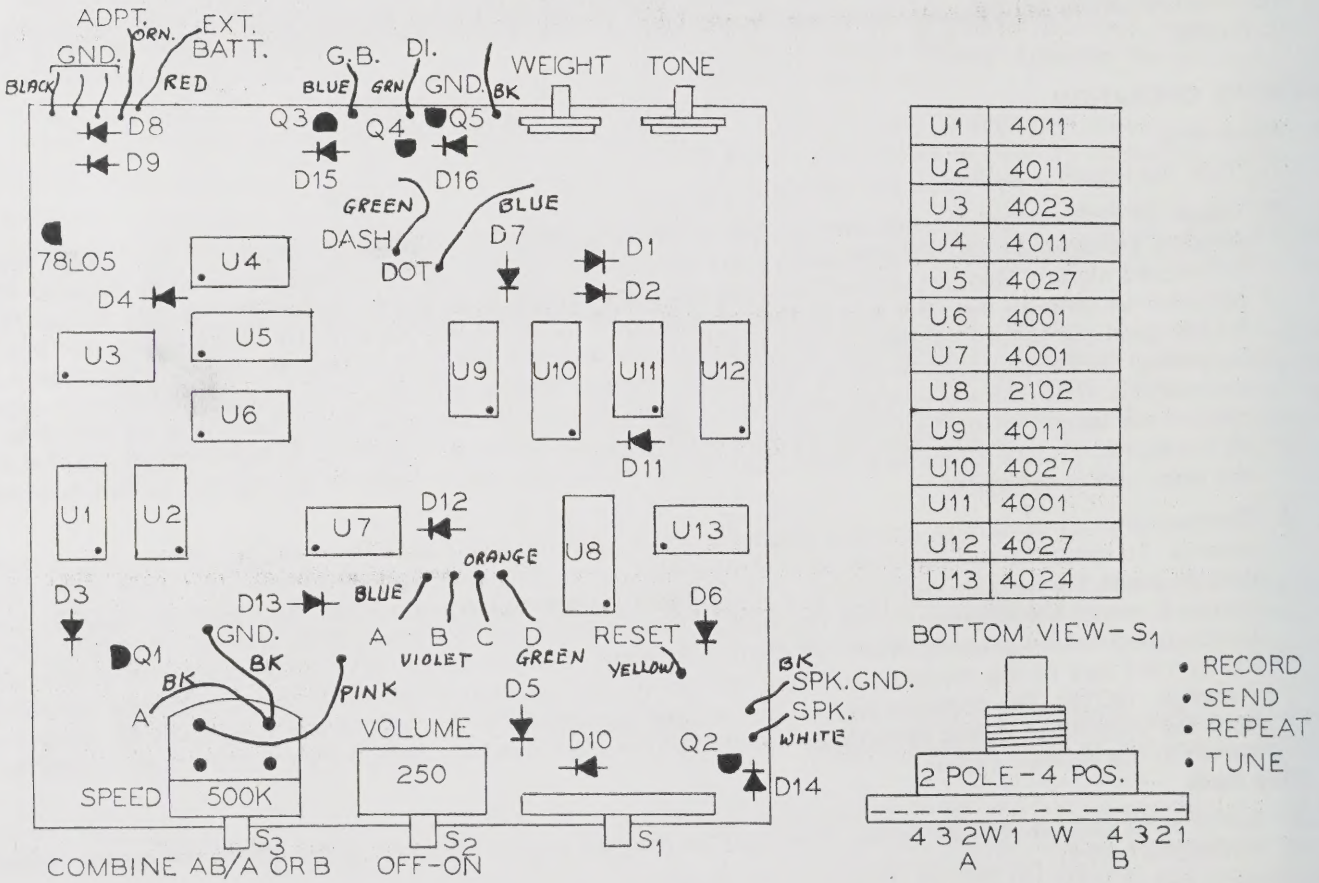
1. Turn the Selector Switch to the RECORD position.
2. Adjust SPEED control for the desired speed. Press a MEMORY ADDRESS button (A, B, C or D) and start sending immediately. (NOTE: Recording will not start until a MEMORY ADDRESS button is pressed while in the record mode.) Memory LED will light up when memory is in operation. Message including spaces is being recorded as long as the LED is lit in the record mode. When LED goes out, this indicates the memory is full. If LED goes out before sending is completed, the message is too long. Combine memory addresses A and B by pulling the SPEED control out to double the memory space. When recording, the internal clock runs continuously to allow spaces of any length to be entered into the memory; thus, there is a random delay from zero to the length of one dot. This requires you to synchronize your sending with the keyer to some extent. At low speed (10-15 wpm) dots may even be missed occasionally. This can be avoided by not releasing the dot lever until a dot starts.
3. Occasionally, an unwanted dot may appear in the beginning of a recorded message; this is due to improper erasing. To insure a complete erasure of previously recorded message in the memory when recording it is best to press the address button two or three times before sending. Note that the MEMORY ADDRESS, when pressed, resets the memory to the beginning of that address either record or play mode; therefore, the reset button need not be pressed when programming. A recorded message can also be corrected by first playing the correct part of the message and just before the mistake turn to record mode to complete recording the message. NOTE: The memory keyer will key the transmitter in the record mode. It must be disconnected from the transmitter during recording. The transmitter may also be disabled by switching the transmit/receive switch to the receive mode.

B. Play Back

1. Turn the Function Switch to SEND. This puts the memory keyer in the play mode. Press the desired MEMORY ADDRESS button.
2. The LED indicates memory is in operation. MEMORY ADDRESS resets message to the beginning once it is pressed.
3. To interrupt a playing message or to make an insertion, simply send at the point where changes are to be made. The message can be continued by pressing another MEMORY ADDRESS button which contains the remainder of the message.
4. To repeat, turn the function Switch to the REPEAT Position, then press the same MEMORY ADDRESS button. The recorded message will repeat continuously until it is interrupted. NOTE: The repeat function will repeat both messages and any length of space at the end of a message. Recording a pause at the end of a message will allow you to listen before the message is repeated again.

OPERATION NOTES

1. Shielded cables must be used between the key and the memory keyer jack and between the keyer output and the transmitter to prevent RF interference.
2. If an unwanted dot should appear at the beginning of a recorded message, press the desired MEMORY ADDRESS button two or three times in the record mode before programming.
3. Cover the battery snap if memory saver battery is not in use. Use the plastic tubing provided.
4. Use only the MFJ AC adaptor supplied. Do not use more than 15 volts for the external battery. The tip of the sub miniature jack is positive and the sleeve is ground.



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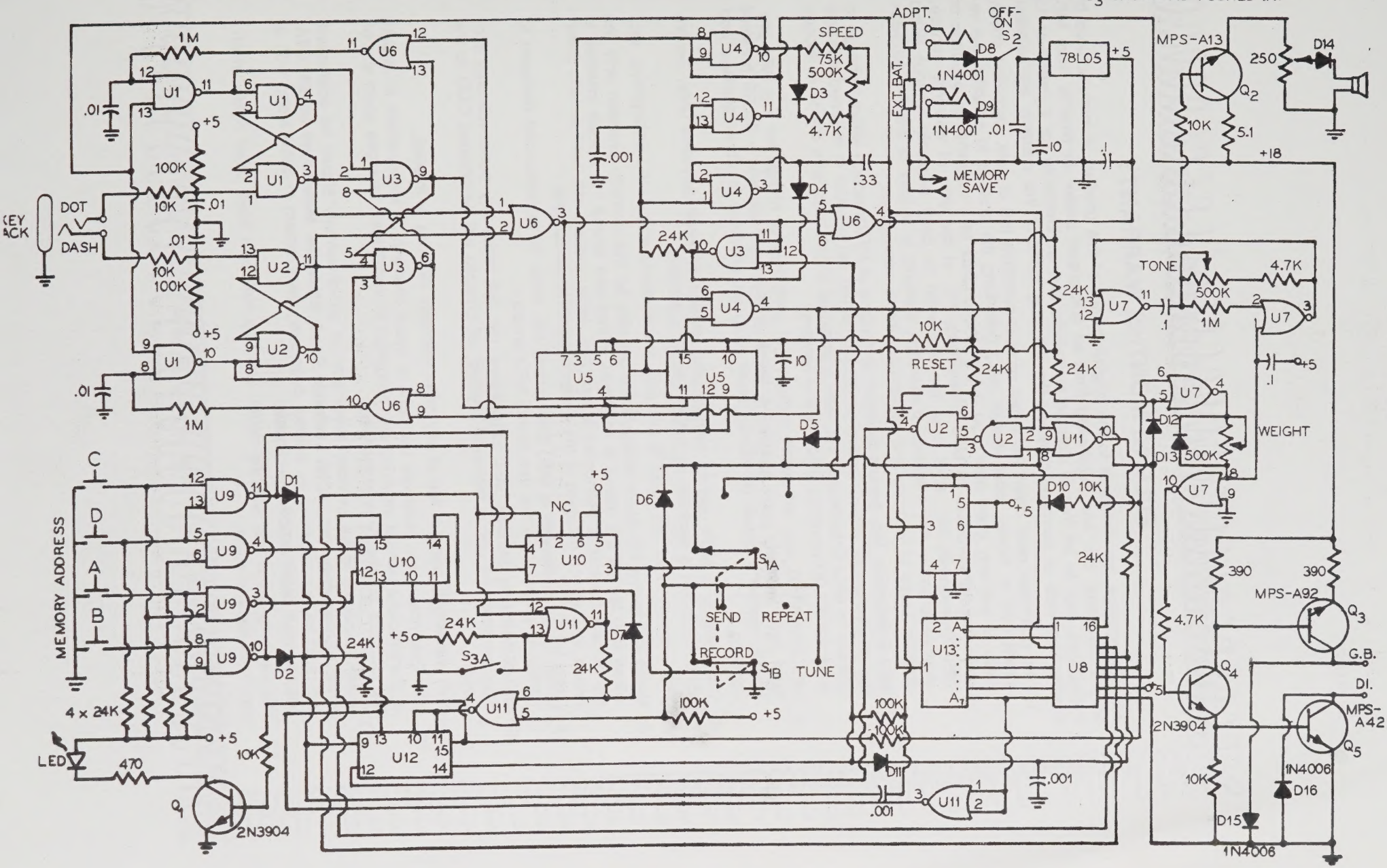
U4	4011
U5	4027
U6	4001
U7	4001
U8	2102
U9	4011
U10	4027
U11	4001
U12	4027
U13	4024

MFJ-482 COMPONENTS LOCATION DIAGRAM

MFJ-482 SCHEMATIC DIAGRAM

NOTE: ALL CAPACITORS IN MICROFARADS.
ALL RESISTORS IN OHMS.
UNLESS NOTED DIODES ARE 1N4148.
S_3 SHOWN AS PUSHED IN.



FULL 12 MONTHS WARRANTY

MFJ Enterprises, Inc. warrants to the original owner of this product, if manufactured by MFJ Enterprises, Inc. and purchased from an authorized dealer or directly from MFJ Enterprises, Inc. to be free of defects in material and workmanship for a period of 12 months from date of purchase provided the following terms of this warranty are satisfied.

1. The purchaser must retain the dated proof-of-purchase (bill of sale, cancelled check, credit card or money order receipt, etc.) describing the product to establish the validity of warranty claim and must submit the original or a machine-reproduction of such proof-of-purchase to MFJ Enterprises, Inc. at the time of warranty service. MFJ Enterprises, Inc. shall have the discretion to deny warranty without dated proof-of-purchase. Any evidence of alteration, erasure, or forgery of proof-of-purchase shall be cause to void any and all warranty terms immediately.
2. MFJ Enterprises, Inc. agrees to repair or replace at MFJ's option without charge to the original owner any defective product provided the product is returned postage prepaid to MFJ Enterprises, Inc. with a personal check, cashier's check or money order for $3.00 covering postage and handling.
3. MFJ Enterprises, Inc. will supply replacement parts free of charge for any MFJ product under warranty upon request. A dated proof-of-purchase and a $3.00 personal check, cashier's check or money order must be provided to cover postage and handling.
4. This warranty is **NOT** void for owners who attempt to repair defective units. Technical consultation is available by calling (601) 323-5869.
5. This warranty does not apply to kits sold or manufactured by MFJ Enterprises, Inc.
6. Wired and tested PC board products are covered by this warranty provided **only the wired and tested PC board is returned.** Wired and tested PC boards installed in the owner's cabinet or connected to switches, jacks, cables, etc. sent to MFJ Enterprises, Inc. will be returned at the owner's expense unrepaired.
7. Under no circumstances is MFJ Enterprises, Inc. liable for consequential damages to person or property by the use of any MFJ product.
8. **Out-of-Warranty Service:** MFJ Enterprises, Inc. will repair any out-of-warranty product provided the unit is delivered prepaid. All charges will be shipped COD to the owner.
9. This warranty is given in lieu of any other warranty express or implied.
10. MFJ Enterprises, Inc. reserves the right to make changes or improvement in design or manufacture without incurring any obligation to install such changes upon any of the products previously manufactured.
11. All MFJ products to be serviced in-warranty or out-of-warranty should be addressed to **MFJ Enterprises, Inc., 921A Louisville Road, Starkville, Mississippi 39759, USA** and must be accompanied by a letter describing the problem in detail along with a copy of your dated proof-of-purchase.
12. This warranty gives you specific rights, and you may also have other rights which vary from state to state.

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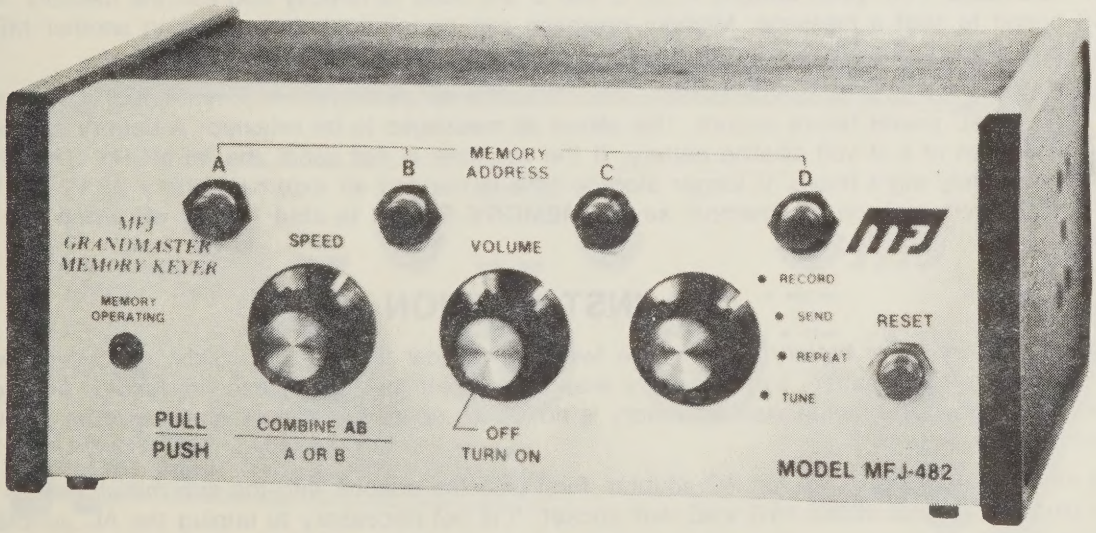

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1. To install the memory saver battery, remove the two screws near the rear top. Slide the cover toward the back and remove. Connect a 9 volt battery to the battery snap then insert the battery into the holder. A 9 volt alkaline battery should be used. When the memory saver battery is not used, cover the battery snap with the plastic tubing supplied to prevent shorting.
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3. During portable use when 110 VAC is not available, plug external batteries into the 12-15 VDC sub miniature jack on the rear panel. External batteries and the memory saver can never come into use unless power from the adapter is lost. The tip of the sub miniature plug is positive and the sleeve is ground, for the AC adapter and external batteries.
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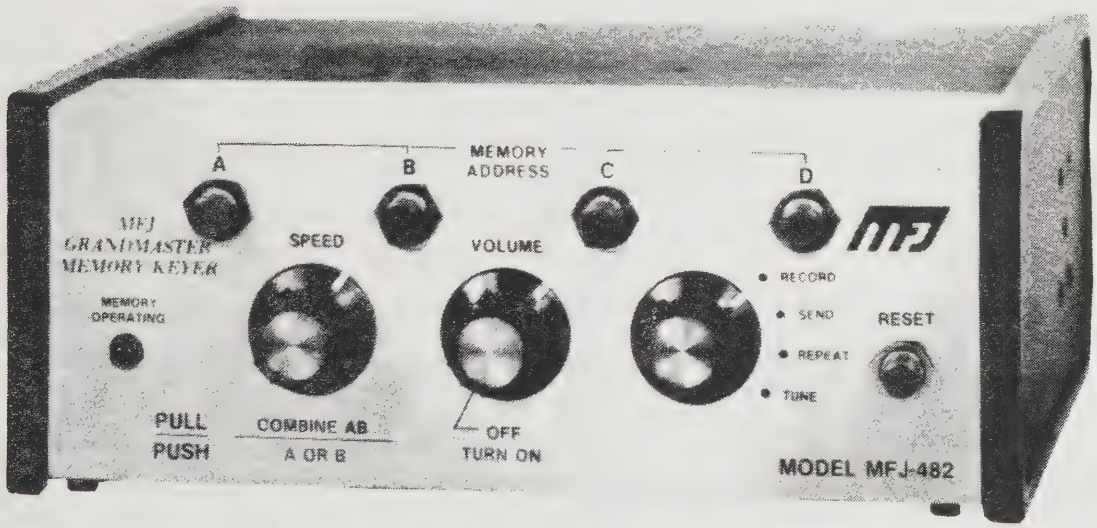

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OPERATION PROCEDURE

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3. Push the SPEED control in.
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II. MEMORY OPERATION

A. Recording

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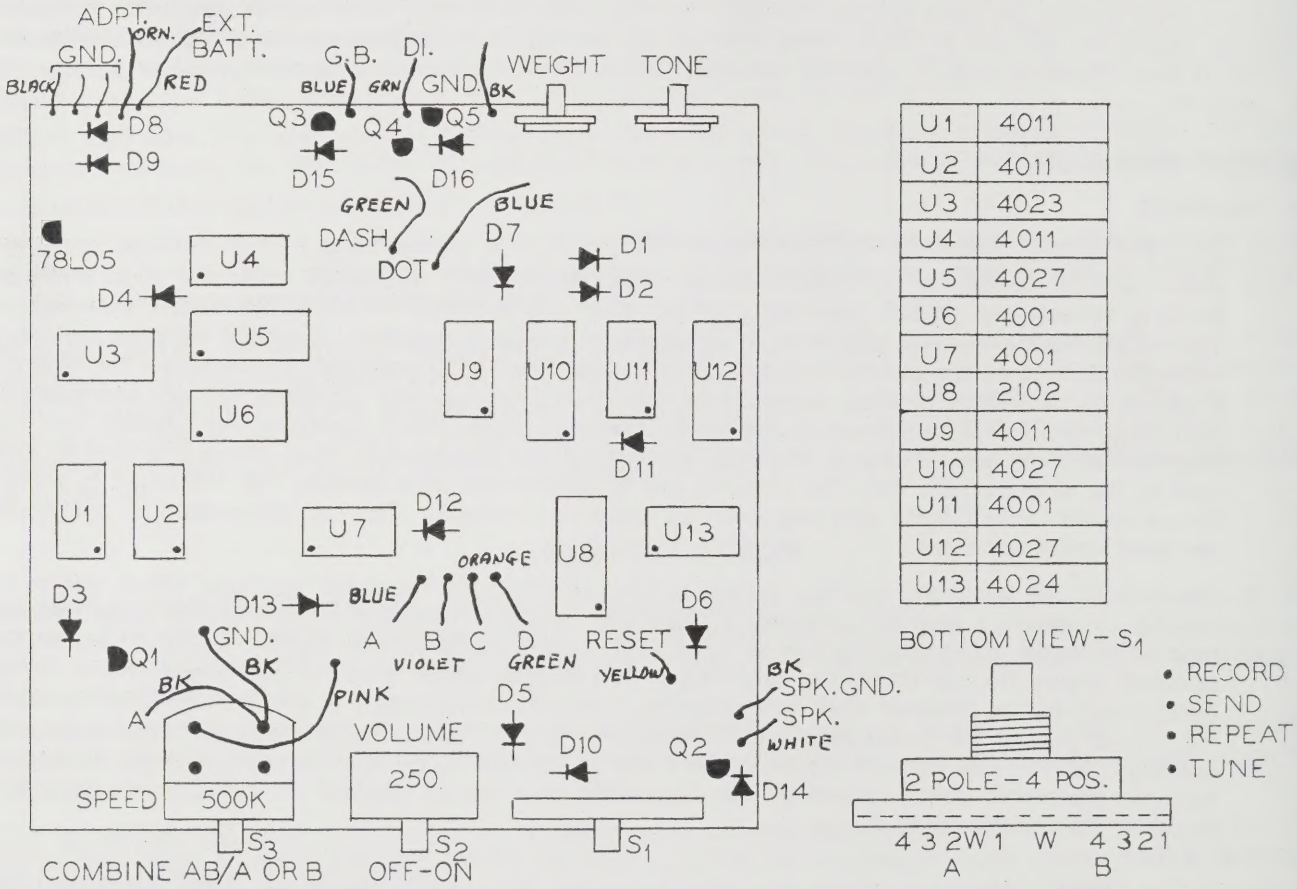

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MFJ-482 COMPONENTS LOCATION DIAGRAM

MFJ-482 SCHEMATIC DIAGRAM

NOTE: ALL CAPACITORS IN MICROFARADS.
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UNLESS NOTED DIODES ARE 1N4148.
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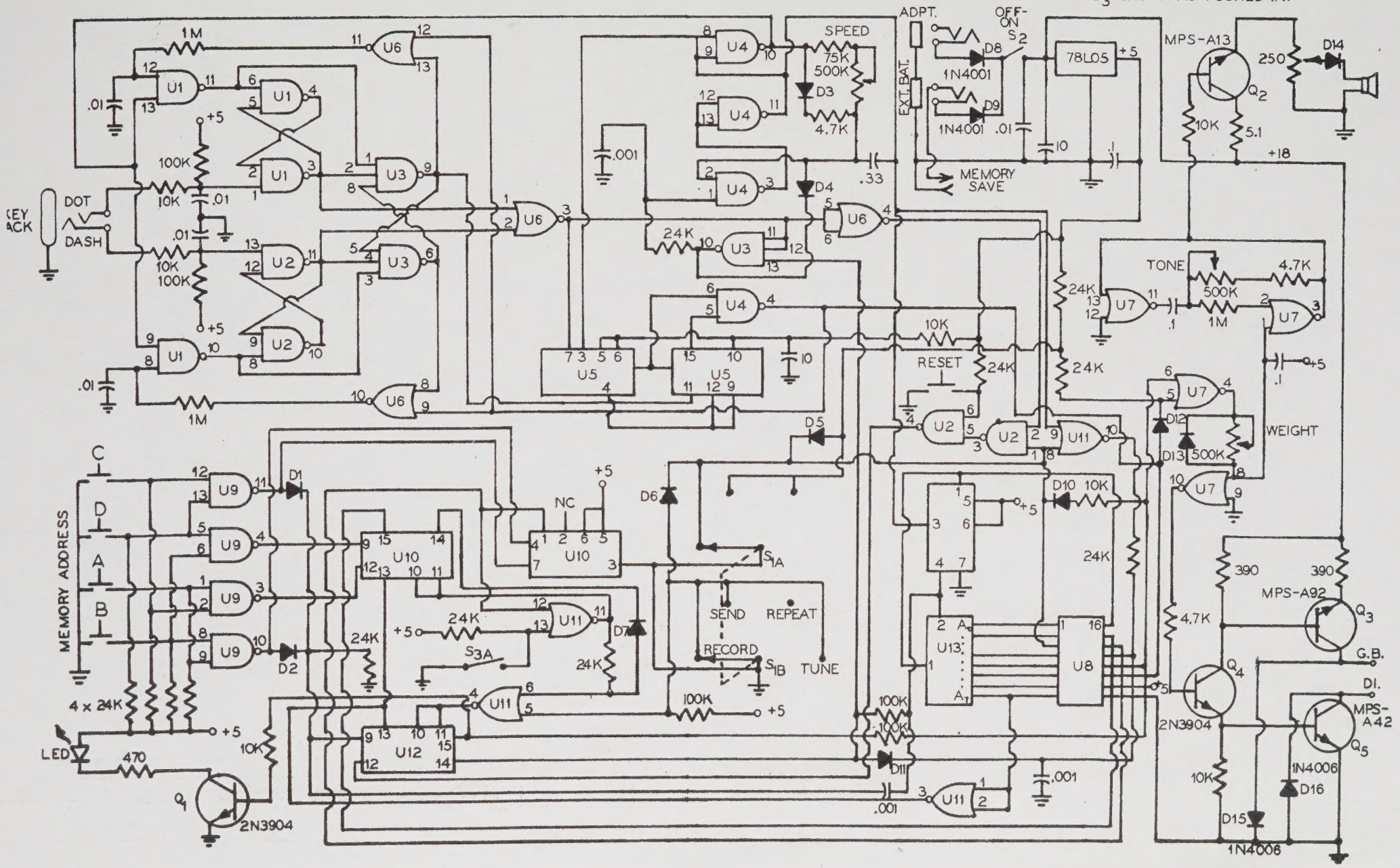

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3. MFJ Enterprises, Inc. will supply replacement parts free of charge for any MFJ product under warranty upon request. A dated proof-of-purchase and a $3.00 personal check, cashier's check or money order must be provided to cover postage and handling.
4. This warranty is **NOT** void for owners who attempt to repair defective units. Technical consultation is available by calling (601) 323-5869.
5. This warranty does not apply to kits sold or manufactured by MFJ Enterprises, Inc.
6. Wired and tested PC board products are covered by this warranty provided **only the wired and tested PC board is returned.** Wired and tested PC boards installed in the owner's cabinet or connected to switches, jacks, cables, etc. sent to MFJ Enterprises, Inc. will be returned at the owner's expense unrepaired.
7. Under no circumstances is MFJ Enterprises, Inc. liable for consequential damages to person or property by the use of any MFJ product.
8. **Out-of-Warranty Service:** MFJ Enterprises, Inc. will repair any out-of-warranty product provided the unit is delivered prepaid. All charges will be shipped COD to the owner.
9. This warranty is given in lieu of any other warranty express or implied.
10. MFJ Enterprises, Inc. reserves the right to make changes or improvement in design or manufacture without incurring any obligation to install such changes upon any of the products previously manufactured.
11. All MFJ products to be serviced in-warranty or out-of-warranty should be addressed to **MFJ Enterprises, Inc., 921A Louisville Road, Starkville, Mississippi 39759, USA** and must be accompanied by a letter describing the problem in detail along with a copy of your dated proof-of-purchase.
12. This warranty gives you specific rights, and you may also have other rights which vary from state to state.